NIAID Regional Centers of Excellence for Biodefense

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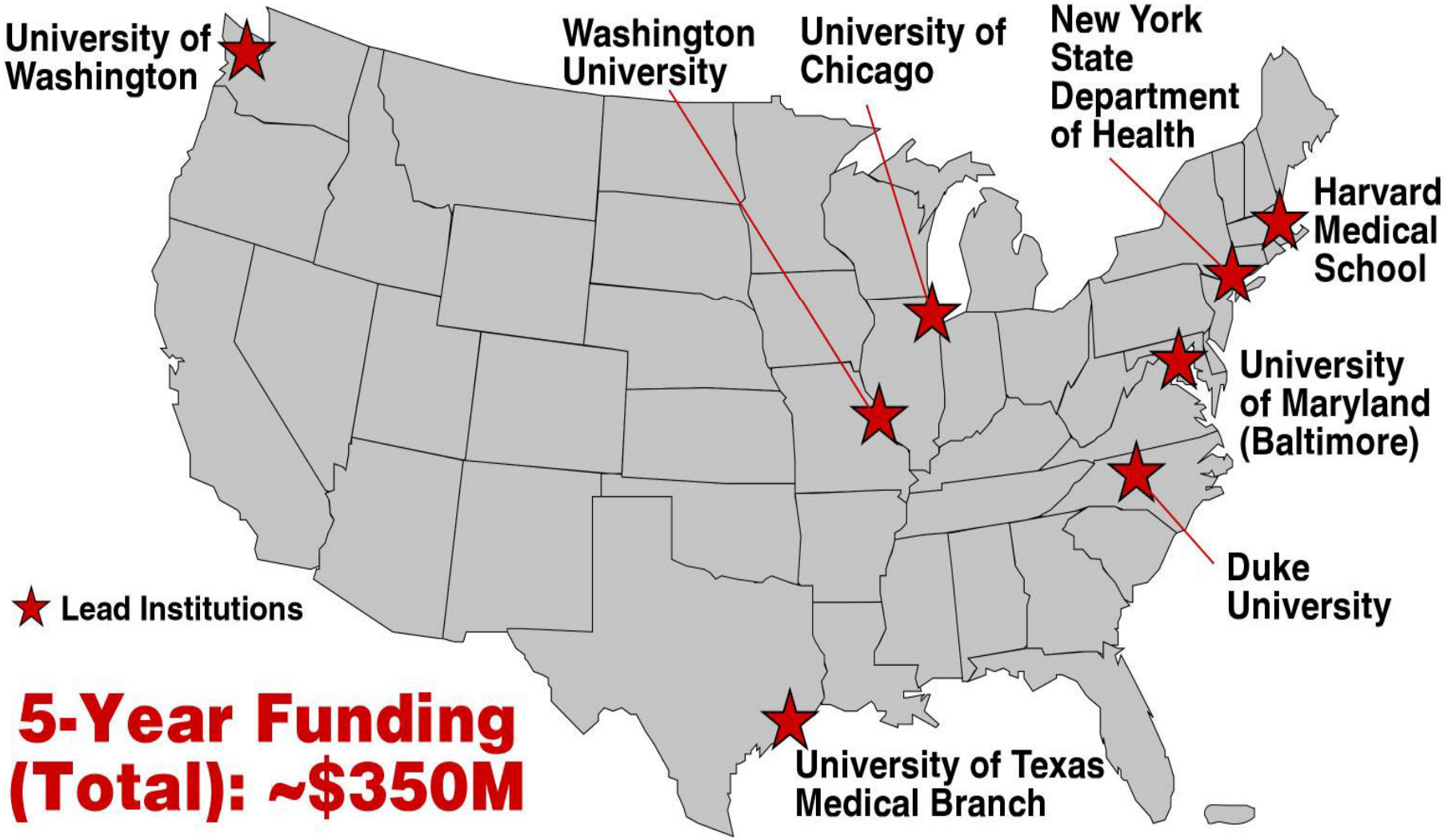
RCE Model

- Interdisciplinary teams
- Basic > Translational > Clinical
- Flexibility
- Synergy
- Local and regional cooperation
- National coordination

NIAID Regional Centers of Excellence for Biodefense and Emerging Infectious Diseases Research (RCEs)



5-Year Funding (Total): ~$350M

Goals for the Centers

- Basic research to understand category A-C agents
- Translational capacity leading to drugs, vaccines and diagnostics
- Expanding the pool of researchers and technical personnel
- Regional facilities for the biodefense effort
- Assist emergency responders

Center Components

- Strategic plan
- Research projects (105)
- Career development projects (32)
- Developmental research projects (72)
- Administrative core
- Scientific cores (47)
- Biocontainment facilities
- Emergency response plans

RCE Program Management

- Cooperative agreements
- Frequent interactions between Centers and Program staff
- Focus on practical applications of research

Bioinformatics at the RCEs

Biomedical Informatics
Yves Lussier
Columbia University
Northeast RCE

Provide Informatics Services

-storage, transfer, manipulation of data

Pursue Research Projects

-genomics, proteomics, structural biology, preclinical and clinical informatics to rapidly characterize and identify virulence factors in genomes, relationships between genomes

-provide large scale functional annotation

Bioinformatics and Genomics Core
Bruno Sobral
Virginia Biotechnology Institute
Mid-Atlantic RCE

Provide infrastructure for analysis of DNA, RNA, proteins, metabolites

Provide computational and information management resources

Deploy and support VBI's software information system

Train and educate RCE researchers in computing and information systems

Microbial Informatics Resource Core
Rick Stevens
University of Chicago/Argonne National Lab
Great Lakes RCE

Develop computational tools, algorithms, databases for analysis, visualization, and annotation of data

Provide collaboration tools

Provide integration of tools with national computational Grid (NSF TeraGrid)

Train researchers in computational biology

Data Integration and Bioinformatics Core
Mitch Brittnacher
University of Washington
WWAMI RCE, Seattle

Establish database system to integrate data and report generating system to facilitate information retrieval

Provide bioinformatics, statistical, and computational services

Provide RCE administrators with tools to assess RCE progress and for rapid access of information in an emergency

Provide public research community controlled internet access to RCE data

Create public website to educate health care workers and the general public

Computational Biology Core
Harold (Skip) Garner
University Texas Medical Branch, Galveston, TX
Western RCE

Develop applied computational biology resources and provide computational support to researchers

-establish and maintain servers

-pre-compute data (PCR, microarrays, text mining)

Construct pathogen-specific internet-accessible bioinformatics tool set and data warehouse

-make available to RCE and entire research community